IN THE CLAIMS

For the convenience of the Examiner, all pending claims of the present Application are shown below. Claims 63-83 have been cancelled without prejudice or disclaimer. No amendments have been made to pending Claims 1-62.

1.   A system for allocating bandwidth in a wireless communications network, comprising:

a geo-location tool residing on a computer-readable medium, the geo-location tool operable to receive data for a wireless communications network including a plurality of geo-location areas and to estimate bandwidth parameters for a geo-location area based on the data; and

an allocation engine residing on the computer-readable medium, the allocation engine operable to allocate bandwidth in the geo-location area based on its bandwidth parameters.

2.   The system of Claim 1, further comprising:

the geo-location tool further operable to determine an allocation bandwidth for the geo-location area; and

the allocation engine further operable to allocate bandwidth in the geo-location area based on the allocation bandwidth.

3.   The system of Claim 1, wherein the bandwidth parameters comprise at least one of a bandwidth usage and a bandwidth demand for the geo-location area.

4.   The system of Claim 1, wherein the bandwidth parameters comprise bandwidth interference contribution for the geo-location area.

5.   The system of Claim 1, further comprising:

the geo-location tool operable to estimate bandwidth parameters for the geo-location area on a per service class basis; and

the allocation engine operable to allocate bandwidth in the geo-location on the per service class basis based on the bandwidth parameters.

6.   The system of Claim 1, wherein the data received by the geo-location tool comprises historic and service level data for the wireless communications network.

7.   The system of Claim 1, the geo-location tool further operable to generate, based on the data, a source map comprising sources of bit usage in the geo-location area and to estimate bandwidth parameters for the geo-location area based on the source map.

8.   The system of Claim 7, wherein the sources of bit usage comprise a high bandwidth use facility for which a contractual service level is provided by the wireless communications network.

9.   The system of Claim 7, wherein the sources of bit usage comprise an establishment for which local wireless access is provided by the wireless communications network at a contractual service level.

10.   The system of Claim 1, wherein the data comprises contractual service level data.

11.   The system of Claim 1, wherein the data comprises at least one of data measured from usage within the wireless communications network, radio frequency measurement, and interference estimates.

12.   The system of Claim 1, the geo-location tool further operable to generate, based on the data, a subscriber usage profile indicating the probability of a subscriber engaging in a connection at the geo-location area and to estimate bandwidth parameters based on the subscriber usage profile.

13.   The system of Claim 12, wherein the subscriber usage profile comprises mobility information for the subscriber.

14.   The system of Claim 12, wherein the subscriber usage profile comprises service class invocation information for the subscriber.

15. The system of Claim 12, wherein the subscriber usage profile comprises call hold information for the subscriber.

16. The system of Claim 1, the geo-location tool further operable to generate, based on the data, a current usage map indicating real-time bandwidth being utilized at the geo-location area.

17. The system of Claim 16, wherein the current usage map comprises a peak rate for each active connection within the geo-location area.

18. The system of Claim 17, wherein the current usage map comprises activity and service class information for each active connection within the geo-location area.

19. The system of Claim 18, wherein the current usage map comprises primary and neighboring servers for each active connection within the geo-location area.

20. The system of Claim 1, the geo-location tool further operable to generate, based on the data, a current demand map for the geo-location area based on the data.

21. The system of Claim 20, wherein the current demand map comprises a peak rate for each active connection within the geo-location area.

22. The system of Claim 21, wherein the current demand map comprises activity and service class information for each active connection within the geo-location area.

23. The system of Claim 22, wherein the current demand map comprises primary and neighboring servers for each active connection within the geo-location area.

24. The system of Claim 1, the geo-location tool further operable to generate, based on the data, an expected demand map for the geo-location area based on the data.

25. The system of Claim 24, wherein the expected demand map comprises a peak rate for each potential connection within the geo-location area.

26. The system of Claim 25, wherein the expected demand map comprises activity and service class information for each potential connection within the geo-location area.

27. The system of Claim 26, wherein the expected demand map comprises primary and neighboring server information for each potential connection within the geo-location area.

28. The system of Claim 1, the geo-location tool further operable to generate an interference contribution map indicating the impact on resource usage of supporting various bandwidths at the geo-location area based on the data.

29. The system of Claim 28, the interference contribution map comprising an interference contribution value and a probability for each of a plurality of service classes associated with bandwidths at one or more sectors within the geo-location area.

30. The system of Claim 28, wherein the interference contribution map indicates expected resource usage for each of a plurality of service classes at the geo-location area.

31. The system of Claim 2, the allocation engine further operable to generate a bandwidth supply map indicating the available bandwidth at the geo-location area based on the allocation bandwidth, a total bandwidth, and an interference contribution bandwidth for the geo-location area.

32.   A method for allocating bandwidth in a wireless communications network, comprising:

receiving data for a mobile network including a plurality of geo-location areas;

estimating bandwidth parameters for a geo-location area based on the data; and

allocating bandwidth in the geo-location area based on the bandwidth parameters.

33.   The method of Claim 32, further comprising:

determining allocation bandwidth for the geo-location area based on the data; and

allocating bandwidth in the geo-location area based on the allocation bandwidth.

34.   The method of Claim 32, wherein the bandwidth parameters comprise at least one of a bandwidth usage and a bandwidth demand for the geo-location area.

35.   The method of Claim 32, wherein the bandwidth parameters comprise bandwidth interference contribution for the geo-location area.

36.   The method of Claim 32, further comprising:

estimating bandwidth parameters for the geo-location area on a per service class basis; and

allocating bandwidth in the geo-location area on the per service class basis based on the bandwidth parameters.

37.   The method of Claim 32, wherein the data comprises historic and service level data for the wireless communication network.

38.   The method of Claim 32, further comprising:

generating, based on the data, a source map comprising sources of bit usage in the geo-location area; and

estimating bandwidth parameters for the geo-location area based on the source map.

39.   The method of Claim 38, wherein the sources of bit usage comprise a high bandwidth use facility for which a contractual service level is provided by the wireless communications network.

40.   The method of Claim 38, wherein the sources of bit usage comprise an establishment for which local wireless access is provided by the wireless communication network at a contractual service level.

41.   The method of Claim 32, wherein the data comprises contractual service level data.

42.   The method of Claim 32, wherein the data comprises at least one of data measured from usage within the wireless communications network, radio frequency measurements, and interference estimates.

43.   The method of Claim 32, further comprising:

Generating, based on the data, a subscriber usage profile providing the probability of a subscriber engaging in a connection at the geo-location area; and

estimating bandwidth parameters based on the subscriber usage profile.

44.   The method of Claim 43, wherein the subscriber usage profile comprises mobility information for this subscriber.

45.   The method of Claim 43, wherein the subscriber usage profile comprises service class invocation information for this subscriber.

46.   The method of Claim 43, wherein the subscriber usage profile comprises call hold information for this subscriber.

47.   The method of Claim 32, further comprising generating a current usage map indicating rural-time bandwidth being utilized at the geo-location area.

48.   The method of Claim 47, wherein the current usage map comprises a peak rate for each active connection within the geo-location area.

49.   The method of Claim 48, wherein the current usage map comprises activity and service class information for each active connection within the geo-location area.

50.   The method of Claim 49, wherein the current usage map comprises primary and neighboring servers for each active connection within the geo-location area.

51.   The method of Claim 32, further comprising generating a current demand map for the geo-location area based on the data.

52.   The method of Claim 51, wherein the current demand map comprises a peak rate for each active connection within the geo-location area.

53.   The method of Claim 52, wherein the current demand map comprises activity and service class information for each active connection within the geo-location area.

54.   The method of Claim 53, wherein the current demand map comprises primary and neighboring servers for each active connection within the geo-location area.

55.   The method of Claim 32, further comprising generating an expected demand map for the geo-location area based on the data.

56.   The method of Claim 55, wherein the expected demand map comprises a peak rate for each potential connection within the geo-location area.

57.   The method of Claim 56, wherein the expected demand map comprises activity and service class information for each potential connection within the geo-location area.

9

58.   The method of Claim 57, wherein the expected demand map comprises primary and neighboring servers for each potential connection within the geo-location area.

59.   The method of Claim 32, further comprising generating an interference contribution map indicating the impact on resource usage of supporting various bandwidths at the geo-location area based on the data.

60.   The method of Claim 59, wherein the interference contribution map comprises an interference contribution value and a probability for each of a plurality of service classes associated with disparate bandwidths at one or more sectors within the geo-location area.

61.   The method of Claim 59, wherein the interference contribution map indicates expected resource usage for each of a plurality of service classes at the geo-location area.

62.   The method of Claim 33, further comprising generating a bandwidth supply map indicating the available bandwidth at the geo-location area based on the allocation bandwidth, a total bandwidth, and an interference contribution bandwidth for the geo-location area.

63.   (Cancelled)

64.   (Cancelled)

65.   (Cancelled)

66.   (Cancelled)

67.   (Cancelled)

68.   (Cancelled)

69.   (Cancelled)

70.   (Cancelled)

71.   (Cancelled)

72.   (Cancelled)

73.   (Cancelled)

74.   (Cancelled)

75.   (Cancelled)

76.   (Cancelled)

77.   (Cancelled)

78.   (Cancelled)

79.   **(Cancelled)**

80.   **(Cancelled)**

81.   **(Cancelled)**

82.   **(Cancelled)**

83.   **(Cancelled)**